**Breakdown of Gas Prices**



Photo by Mario Tama/Getty Images

Traders work in the crude oil options pit at the New York Mercantile Exchange, April 22, 2008. Oil posted a then-record high of more than $118 following oil demand from China and supply concerns from Russia and Nigeria.

When you pump $30 into your tank, that money is broken up into little pieces that get distributed among several entities. Gas is just like any other consumer product: There's a supply chain and several groups who are responsible for setting the price of the product. The media can sometimes lead you to believe that the price of gas is based solely on the price of [crude oil](http://auto.howstuffworks.com/fuel-efficiency/fuel-consumption/oil-refining1.htm), but there are actually many factors that determine what you pay at the pump. No matter how expensive gas becomes, all of these entities have to get their slice of the pie. According to the [U.S. Department of Energy](http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp), here's an approximation of where each dollar you spend on gas goes:

* **Taxes**: 13 cents
* **Distribution and Marketing**: 8 cents
* **Refining**: 14 cents
* **Crude oil**: 65 cents

[source: [DOE](http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp)]

This is what the average breakdown looked like in April 2011. Let's look at those components in more detail.

* **Crude oil** - The biggest portion of the cost of gas goes to the crude-oil suppliers. This is determined by the world's oil-exporting nations, particularly the Organization of the Petroleum Exporting Countries (OPEC), which you will learn more about in the next section. The amount of crude oil these countries produce determines the price of a barrel of oil. Crude-oil prices averaged around $35 per barrel (1 barrel = 42 gallons or 158.99 L) in 2004. And, after Hurricane Katrina, some prices were almost double that. In April 2008, crude-oil prices averaged around $104.74 per barrel. During that month, the price of oil reached a record price of almost $120 a barrel [source: [DOE](http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm)]. By May 16, prices had topped $117 per barrel [source: [MarketWatch](http://www.marketwatch.com/news/story/oil-rallies-past-127-goldman/story.aspx?guid)]. On May 22, markets in New York and London reported prices past $135 per barreland, and on July 11, oil hit an all-time high of $147 [source: [Forbes](http://www.forbes.com/afxnewslimited/feeds/afx/2008/05/22/afx5038506.html), [New York Sun](http://www.nysun.com/business/oil-sets-new-record-near-147-a-barrel/81703/)]. Analysts speculated that everything from investment in oil futures to increasing demand from countries like India and China contributed to the spike in price.

Sometimes, gas prices go up even though there is plenty of crude oil on the market. It depends on what kind of oil it is. Oil can be classified as heavy or light, and as sweet or sour (no one actually tastes the oil, that's just what they call it). Light, sweet crude is easier and cheaper to refine, but supplies have been running low. There's plenty of heavy, sour crude available in the world, but refineries, particularly those in the U.S., have to undergo costly retooling to handle it.

* **Refining costs** - The cost of refining diesel fuel can be considerably higher than the price of refining regular gasoline. To learn more about oil refining, read [How Oil Refining Works](http://science.howstuffworks.com/oil-refining.htm).
* **Distribution and marketing** - Crude oil is transported to refineries, and gasoline is shipped from the refineries to distribution points and then to gas stations. The price of **transportation** is passed along to the consumer. **Marketing the brand** of the oil company is also added into the cost of the gasoline you buy.
* **Taxes** - Federal and state governments each place excise taxes on gasoline. There may also be some additional taxes, such as applicable state sales taxes, gross receipts taxes, oil inspection fees, underground storage tank fees and other miscellaneous environmental fees. Add that to the state excise taxes, and it can average 27.4 cents. It could be worse. In Europe, gas prices are far higher than in America because taxes on gas are much higher.
* **Station markup** - Of course some of the money you spend at the pump does go to the service station. While some consumers blame high prices on station markup, service stations typically add on a few cents per gallon. There's no set standard for how much gas stations add on to the price. Some may add just a couple of cents, while others may add as much as a dime or more. However, some states have markup laws prohibiting stations from charging less than a certain percentage over invoice from the wholesaler. These laws are designed to protect small, individually-owned gas stations from being driven out of business by large chains that can afford to slash prices at select locations.

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| Average U.S. Gasoline Prices   |  |  | | --- | --- | | **Year** | **Price Per Gallon** | | 1980 | $1.22 | | 1985 | $1.96 | | 1990 | $1.22 | | 1995 | $1.21 | | 2000 | $1.56 | | 2001 | $1.53 | | 2002 | $1.44 | | 2003 | $1.64 | | 2004 | $1.92 | | 2005 | $2.34 | | 2006 | $2.63 | | 2007 | $2.85 | | 2008 | $3.32 | |  |  | | 2009 | $2.40 | | Source: U.S. Bureau of Labor Statistics Consumer Price Index (CPI). [Average Price Data, Gasoline All Types.](http://www.bls.gov/CPI/) | | |

Gas prices also vary from state to state for several reasons. **Taxes** are probably the biggest factor in the different prices around the country. Additionally, **competition** among local gas stations can drive prices down. **Distance** from the oil refineries can also affect prices -- stations closer to the Gulf of Mexico, where many oil refineries are located, have lower gas prices due to lower transportation costs. There are also some regional factors that can affect prices.

World events, wars and weather can also raise prices. Anything that affects any part of the process, from the moment the oil is drilled, through refining and distribution to your car will result in a change in price. Military conflicts in parts of the world with lots of oil supplies can make it difficult for oil companies to drill and ship crude oil. Hurricanes have damaged offshore drilling platforms, coastal refineries and shipping ports that receive oil tankers. If a tanker itself is lost or damaged, or leaks its oil into the ocean, that will put a dent in the market as well.

Next, we'll look at why it's more expensive to buy gas in Milwaukee, Wis., than in many other parts of the United States.­

**Gas Prices Across the Country**



Photo courtesy Phillips Petroleum Company

Most of the American crude-oil supply is imported using tankers similar to this one.

The new legislation to input ethanol comes from environmental standards that have been in place in some parts of the country for several years. In some areas, gasoline was required to meet higher environmental standards in order to reduce the amount of smog created by burning gasoline. Producing this cleaner-burning gasoline caused problems in refining, distribution and storage, which increases the cost of gas. "The result of this targeted approach to air quality has been to create gasoline market islands," John Cook, director of the petroleum division of the DOE's Energy Information Administration, said before the U.S. House of Representatives Committee on Energy and Commerce on May 15, 2001.

Cook pointed at California and the Chicago and Milwaukee areas as primary examples of gasoline-market islands. The clean-burning requirements in each of these areas are unique to that individual area, and only a few refineries can produce the specialized products. High demand, a supply problem at a refinery or a problem with a pipeline can cause pricing in these areas to surge. Other states and municipalities also have their own requirements for cleaner fuel.

In California, the state government has set its own reformulated gasoline rules that are stricter than the federally mandated clean-gas laws. The state adopted requirements for cleaner-burning fuel in 1996 [source: ARB]. This is why Californians pay a higher price for cleaner fuels -- this, plus a local sales-and-use tax, the federal excise tax and a state excise tax. California's distance from the refineries located near the Gulf of Mexico can also add to the cost of gasoline if it chooses to obtain gas supplies from those refineries.

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Another area where prices have far exceeded the U.S. national average is the Midwest. In 1999, before the rest of the country started using ethanol-blended gas, the Midwest region became subject to rules that required the use of ethanol. Few refineries outside the region produced this type of reformulated gasoline, which meant that demand could outstrip supply. This was one of many factors contributing to higher gas prices in the Midwest in the early 2000s. The problem cropped up again across the United States after the national call for ethanol-blended gas in the spring of 2007.

Crude oil inventories have the single biggest effect on gas prices, and the United States depends heavily on foreign oil supplies. In July 2008, the United States imported about 13 million barrels of oil and petroleum products per day [source: EIA]. We'll look at exactly where that crude oil comes from next.